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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/039,072  | 01/02/2002  | Daniel Yellin        | ITL.0613US          | 9193             |
| 21906   | 7590        | 03/16/2006           |                     | EXAMINER         |
| TROP PRUNER & HU, PC<br>8554 KATY FREEWAY<br>SUITE 100<br>HOUSTON, TX 77024 |             |                      | WARE, CICELY Q      |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2634                |                  |

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |               |
|------------------------------|-----------------|---------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)  |
|                              | 10/039,072      | YELLIN ET AL. |
|                              | Examiner        | Art Unit      |
|                              | Cicely Ware     | 2634          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 February 2006.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-17, 19-27, 29 and 30 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1-10, 27, 29 and 30 is/are allowed.

6) Claim(s) 11-16 is/are rejected.

7) Claim(s) 17, 19, 20 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 16 February 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ .   | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 11, 12-16 rejected under 35 U.S.C. 102(e) as being anticipated by Meyer et al. (US Patent Application 2002/0141437).

(1) With regard to claim 11, Meyer et al. discloses in (Figs. 6 and 8) an apparatus comprising: a processor; a communication interface operably coupled to said processor to receive over a channel a signal including a desired portion associated with a desired channel and an undesired portion mixed with said desired portion (Pg. 3, col. 1, lines 17-20); and a device operably coupled to said processor to recover the desired portion from the signal, said device to use an array of at least two spatially separated antennas to receive the signal into at least two propagating signal portions through at least two propagation paths (Pg. 1, col. 1, line 62 – col. 2, lines 1-13, Pg. 2, col. 2, lines 25-45, Pg. 3, col. 2, lines 40-56, 68-70, Pg. 4, col. 2, lines 7-40, Pg. 5, col. 1, lines 23-28, 51-55, col. 2, lines 26-30, 43-63).

(2) With regard to claim 12, claim 12 inherits all the limitations of claim 11. Meyer et al. further discloses wherein said communication interface includes at least two antennas (Pg. 1, col. 1, lines 5-11, col. 2, lines 1-13, Pg. 3, col. 2, lines 68-70).

(3) With regard to claim 13, claim 13 inherits all the limitations of claim 11. Meyer et al. further discloses the device is a MODEM (Pg. 1, col. 1, lines 5-33, 54-65).

(4) With regard to claim 14, claim 14 inherits all the limitations of claim 13. Meyer et al. further discloses wherein the MODEM includes an equalizer capable of detecting said signal in the presence of at least one of co-channel and inter-symbol interferences (Pg. 1, col. 1, lines 54-65).

(5) With regard to claim 15, claim 15 inherits all the limitations of claim 14. Meyer et al. further discloses wherein the MODEM is adapted to operate in a cellular environment with time division multiple access to enable digital transmission of the signal allowing a number of users to access a single radio frequency channel without interference by allocating unique time slots to each user within each channel (Pg. 1, col. 1, lines 5-24).

(6) With regard to claim 16, claim 16 inherits all the limitations of claim 11. Meyer et al. further discloses wherein said device is an adaptive equalizer providing a blind adaptive space-time equalization on said signal based on minimum mean square error that reduces an interference in a asynchronous time division multiple access cellular system (Pg. 1, col. 1, lines 5-24, Pg. 2, lines 54-64, col. 2, lines 25-44, Pg. 4, col. 1, lines 52-60-col. 2, lines 1-47).

***Allowable Subject Matter***

3. Claims 17, 19, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method for receiving over a channel a signal including a desired portion associated with a desired channel and an undesired portion mixed with the desired portion. Prior art references show similar methods but fail to teach: **“averaging the temporal transition of the interference patterns across the at least two propagating signal portions to derive the desired portion from the received signal; operating on the channel using the at least two propagation paths to compute a measure indicative of an average behavior of the channel”**, as in claim17; **“derive one or more equalizer coefficients that are based on averaging of the received signal over one signal burst”**, as in claim 19; **“apply a threshold decision criterion to the common output to recover the desired portion from the received signal”**, as in claim 20.

4. Claims 1-10, 27, 29, 30 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method for receiving over a channel a signal including a desired portion associated with a desired channel and an undesired portion mixed with the desired portion. Prior art references show similar methods but fail to teach: **“averaging the temporal transitions of the interference patterns across the at least two propagating signal portions to derive the desired portion form the**

**received signal; operating on the channel using said at least two propagation paths to compute a measure indicative of an average behavior of the channel”, as in claim 6; “estimating an auto-covariance matrix of the received signal and a cross-covariance vector of the received signal and the transmitted one or more data symbols by manipulating averaging the received signal over at least two signal portions of the signal in parallel over a first and a second propagation paths”, as in claim 8; “provide adaptive equalization by periodically repeating the empirical estimation of the desired channel and the received signal auto-covariance”, as in claim 27.**

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Art Unit: 2634

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*Cicely Ware*

cqw

March 10, 2006

*Khai Tran*  
Khai Tran  
PRIMARY EXAMINER